Mid - Florida Atari Computer Club Bulletin

September, 1994

Vol. 11, No. 9

This is the monthly bulletin of the Mid-Florida Atari Computer Club. In it are articles written or submitted by members who feel they are of interest to all users of Atari computers.

You may wish to join a computer club to share the beneficial aspects of having others around you who have similar machines, like interests, and a desire to share what they know with others. A users group can help you understand things about your computer that they have already discovered.

Our membership, at $12.00 per year, entitles you to the newsletter, access to the disk libraries, and club meetings where all the fun and education happen on a monthly basis.

We meet in the Orlando Library building downtown Orlando, 101 E Central Blvd. At 1:30PM on the second Sunday of each month. Feel free to join us there next month to learn more about the wonderful world of computers, and Atari computers in particular.

For Newsletter Exchange

M.F.A.C.C.
C/O Bob Smith
3729 Yosemite Dr.
Orlando, FL 32818

M.F.A.C.C. Affiliated BBS Listing:

Top Gun	☛ 381-5403
Starbase 1	☛ 381-2610
Inner Core	☛ 294-5183

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Mid-Florida Atari Computer Club

MID-FLORIDA ATARI COMPUTER CLUB

From The President

Our president has been on a mission ,and in his travels his command/staff car left him at a GREAT disadvantage. Not having a mechanic as his traveling companion, he got dust and a few miles on his Texas boots. And has had no time to complete his message.

Minutes Of The M.F.A.C.C. General Meeting

August 1994

August 14th, 1994

The meeting started at 1:32pm

Old Business:

- We are now being charged for our checking account. Bill Baker will switch to Great Western this week.

- We have swapped the 520 for the Librarian's 1040. Carey Sparks has swapped his 1040 for ours, so that now we can hook to a monitor.

- Gail Kindstrom asked about the Atari Show that we were going to do someday. That has been tabled until fall.

New Business:

- Demo Announcement: Robert Raymond will give a demo of the Jaguar cartridge "Wolfenstein 3-D".

Visitor Humiliation:

- Craig Kaplan; an old member returns to the fold.

- John Rowell

Other Business:

Robert Raymond was forced into agreeing to demo his program 'Club Dispatcher' at some future date in the fall.*

The meeting ended at 1:52pm

*(Note to minutes: Mr. Raymond actually volunteered to do it and is never forced to do anything.)

Some phone numbers you will need to communicate with our club:

President:
Bob Smith ☛ 299-5374

Vice-President:
John Baker ☛ 823-9705

Treasurer:
Bill Baker ☛ 277-3438

Secretary:
Robert Raymond ☛ 896-7404

Librarians:
8-Bit:
Arthur Averett 290-2096

ST:
Rick Sava ☛ 574-6033

Publicity:
Jim Porter ☛ 695-1467

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Treasurer's Report
August, 1994

Opening balance of	825.61
Deposit	.00
Debit	.00
Service Charge	10.35
Closing balance	815.26

Birthdays for September

Jim Gordley
Mike Sparker
Tim Wolfe
Mike Worley

All welcomed as new members.

COMING EVENTS

October demo should be of the Space Suttle.

FOR SALE

3 single density drives complete $10 each
Large selection of new & used software, games utilities etc. Start mags with disks $1 each.
SM124 St monochrome monitor $75
See Bob Smith or call 299-5374

No Second Prize

The last of the random pillaging from the HP-Source archives, this reiview has been included as the game is available on the Falcon, (virtually unchanged from the ST?) CIH, Nov '93..

No Second Prize

By Thalion

Preview

In what was generally a bleak(ish) period for ST games, see how FEW reviews there are this time round and then consider a good look at Thalion's new release 'No Second Prize'..

This game is one of those classics with a very long production history, a group of German Coders came together in 1989, and soon after, amongst other things, preliminary 3-D routines were shown, the new game 'No Second Prize..'

The now defunct 'ACE' magazine even featured a screenshot of this wonderful game in February 1990, it looked very different then, a sort of 3-D 'space race' type game where you zipped about at will on the planets surface.. Then all of a sudden, nothing much happened..

This state of nothingness continued for three years, other games came and went, Thalion went into a shell, apparently perfecting and tweaking their code in monastic isolation, eventually, 'Trex-Warrior' emerged, a very pretty and impressive futuristic 3-D blaster, 'A320 Airbus' the first Thalion Simulation and finally 'No Second Prize' which now looked very different..

It had become a very firmly terrestrial Motor-Cycle racer sim, and this is where we cut to the main part of the preview..

The Guts of The Thing

A menu screen which lets you get at various things like track information, statistics, and driver selection menu.. A soundchip tune plays, this is of a nice-tune-but-nothing-technically-amazing school of soundchip composition..

Driver select gets you a choice of 6 distinct personalities and nationalities, some of which female (No sexism here..) All have different styles of handling their bikes, and different strengths and weaknesses, One rider will have better cornering ability than another, but may be less resistant to damage/injury, (To give just one example..)

You are then able to select a track of your choice (Assuming you have selected training mode, and have not started a season,) and you can display a minature overhead view of each track and find out about it's particular hazards. Moving on, you can adjust the handling characteristics of the bike, the usual auto/manual gear option, a useful mouse sensitivity setting, then it is time to race..

(The Graphics:-) These are some of the most incredibly smooth 3-D polygons this side of a Falcon, a frame rate very close to 50 frames per second achieved, this is at the cost of some detail, the polygonal shapes tend to be fairly simplistic as far as the background scenery is concerned, but in a racing sim, these tend to be limited to things like grandstand buildings, trees, advertising hoardings at the track-side, some other squarish buildings, etc.. The other bikes are reasonably convincing within the limitations of the 16-colour 'All unecessary detail sacrificed for speed' format, there is even an overhead helicopter flying above the race leaders at the start of the race..

Where the payoff is in the incredibly smooth and fluid movement and control, the illusion is substained by allowing the player to lean into sharp bends just like that bloke with loads of metal pins in his legs, er, Barry Sheen.. Control by the mouse, and is very responsive..

Sound is extremely functional to say the least, a soundchip 'speed-whine' soundchip 'skid' etc..

In comparison, a good competitor to 'Vroom', and urinates all over 'Team Suzuki', less complex than 'Microprose Grand Prix..'

Availability, officially due out soon in the UK, already out in Germany at least, and probably a part of a lot of people's collections already if you kno wot i mean.. Meanwhile, I have only reviewed a demo version which is not 100% complete but gives a good idea of what to expect..

Overall:- definitely worth a look for the pure speed enthusiast who is not too bothered about the background simulation and race-organising bits which only get in the way of the action after all..

(It may be of interest to some people, 'Mad Max' was sacked by Thalion some time ago, he was too lazy for them!!! Which is why you don't see any music made by him on Thalion games anymore..)

(Editor's note: This fine review is from a British online magazine called "Maggie".)

Press Release

Finally, what every Atari FoReM and Turbo BBS SysOp has been waiting for:

CDSELECT

Now, you too can hook up a CD ROM to your BBS!!!

CDSELECT is a program that will let any Atari FoReM or Turbo BBS SysOp operate a CD ROM for file downloading.

That's right, make THOUSANDS and THOUSANDS of files available to your users without having to spend lots of $$$ on purchasing additional hard drives. After the initial CD ROM drive purchase (some drives as low as $99), it will be like adding a removable 600 Meg hard drive to your system already loaded with files for only $10-$40 each!

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- Users are able to browse and download files from any CD.
- SysOps can easily browse and copy files from CD to the hard drive.
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- I/O redirection and carrier detection are provided.
- Access level protection.
- All download's performed are accurately recorded and correctly updated in your BBS files.
- Xmodem, Xmodem-1K, Ymodem, Ymodem-G, and Zmodem protocols are ALL supported for downloading.
- 24 hrs a day support BBS for assistance, suggestions, and updates.
- Inexpensive and easy to install.

If you have been waiting to add a CD ROM to your BBS, the time is NOW, and CDSELECT is for YOU!

CDSELECT is available now for only $15.00 US ($20.00 Canadian) which includes shipping and handling. Just send a check or money order to: Dennis Peters
10 Fourth St.
Pittston, Pa. 18640

ORDER TODAY!!!
For all of you that would like to try CDSELECT for yourself, just call The SAAUG BBS at (717) 655-6483 and apply for a password. Call back a short time later, and select menu option 'O' for Online CD ROM access.

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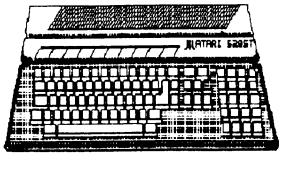


The Falcon has LANDED!!!

HARD DISK HINTS

The Ins and Outs of Interleave
or
"A Thousand and One Practical Uses For
Thin & Crispy Pizza"

By W. K. Whitton

Although there is an abundance of computers complete with various and sundry operating systems, one thing is common to them all. They _all_ use magnetic media of some sort (CD systems notwithstanding!). They rotate the media at speeds from 300 rpm all the way up to 3600 rpm, and disks can readily be found in sizes from 3 1/2 inches up to 8 inches in diameter. These systems store their data on these disks by means of flux changes in the magnetic coating on the surface of the media.

The most common material used in the construction of a floppy disk is "Mylar", and has a coating of ferro-magnetic particles implanted on both sides. The data is written to this media in circular patterns, much the same way a record album is written. It does does differ somewhat though as the data on an LP is more like a spiral, while the data on a disk is comprised of smaller and smaller concentric circles. Another difference between the two is that the LP spins at 33 R.P.M.; the floppy disk spins at 300 R.P.M. (or in some systems, 360 R.P.M.) The floppy disk, depending on several factors, can save from 160 thousand bytes (called 160K) to almost a million and a half (1.44 megabyte).

Another popular storage medium for computers is the hard drive. Hard drives use platters, which are round just as floppies are, and likewise contain data on both sides of the magnetic media. But, these spin at a much faster rate (3600 rpm on the average), possess the ability to hold quite a bit more data (5 meg on up to over 600 meg), and are not flexible nor removable as the floppies are.

In the late 70's and early 80's it was common to see hard drives which had the capacity of 5 meg. These technical marvels of the day were single-platter mechanisms, and a paltry 160 tracks compared to today's standard. Hard drive technology has greatly advanced since that time, and it is commonplace to see advertised multi-platter, thousand track drives. These massive storage devices are ordinary rather than extraordinary both in price and availability. We can safely say that the computers we now have to use, abuse and enjoy, with their "megs" of RAM, multiple "megs" of hard drive storage space, and much faster CPU's, such as the Atari Mega ST computer system with optional hard drives, in many ways rival the large commercial systems of the late 70's in cost, performance, and storage capacity.

In order to understand a little better what we are going to discuss, you will need to visualize what the sectors appear to look like on a disk. Imagine going to your local Pizza Hut and holding a user group lecture.

Your order a large thin and crispy pizza with everything on it (Stop drooling!) for your demonstration, and tell the waitress to not cut the pizza. Take the pizza cutter and divide the pizza into 17 equal slices, but leave them in the tray as they were. Now, you pull a bag from under the table. In it you have donut cutters you swiped from the local donut shop. You proceed to recut the pizza, starting at the middle with a tiny round cutter, and proceeding with a larger diameter cutter each time.

What we have done thus far is slice the pizza (into sectors), and cut it with the donut cutters (cylinders or tracks depending on your vocabulary), and ended up with quite a few pieces of pizza that resemble miniature half-moons. Let us say these little half-moons of heavenly pasta are equal to 512 bytes on your hard disk. You could then easily calculate the total storage capacity of your storage device by multiplying and using this formula: Storage Capacity = 512 x total # of sectors. Now if you really wanted to go all out, you could have purchased 4 or 5 pizzas, stacked them on top of each other, and ended up with a true approximation of what a multi-platter hard drive looks like.

If realism was extremely important, then you could instruct them to put the toppings on BOTH sides of the pizza (weird!) In a real hard drive, each of these separate platters is read by its own individual head. The only thing I would recommend here is instructing the Pizza hut crew to put your "data concoction" in the micro wave, and ordering a LARGE pitcher of pop....While you are waiting, you may wish to calculate the total storage capacity of the "crispy drive" you just constructed. The formula is: Capacity (in bytes) = Sectors per track X Tracks on each platter X Total number of heads.

Let us leave our pizza analogy behind. As the hard drive merrily spins along at 3600 rpm, the sectors are passing by the read/write head. The speed at which the bits pass by is found by calculating 17 sectors, and 512 bytes per sector, at a speed of 3600 rpm...hmmm...that comes out to 31,334,400 data bytes per minute, or 4,177,920 data bytes per second.

One thing you should note is that each sector contains "control information" which is in addition to the data you stored on the device.

Its purpose is to allow the controller to actually be able to access the data, so the real-time data transfer rate is actually a little higher than what you calculated. (5 megabits per second is a very safe guess).

Interleave can be best expressed as the the sequence of physical sectors on a hard disk as it relates to the logical sequence of the sectors. The interleave factor (such as 1:1, 4:1 etc) can be defined as the number of times the disk must revolve in order to read all the sectors on the disk, in order, from the first sector to the last. An interleave of 1:1 is the fastest possible, meaning it reads one entire track in one revolution of the platter. Lets us take a typical WordWriter II text file, such as the one comprising this very article. An average short article by yours truly is usually about 5k long. This means that this file takes up 10 sectors on the hard drive, as each sector is 512 bytes wide. What is known as the first logical sector is that part that contains the first part of our file in question, while the last logical sector of course contains the last part of our text file. Let us, for illustrative purposes, say that the first logical sector happens to be 4,50. The next record won't necessarily be 4,51 as you might suppose, but rather, this is determined by the interleave of your hard drive. If the interleave is 1:1, then this means the physical sectors are laid out in such a manner as to make them equal to the logical sectors. This means the data would be laid out like this:

1_2_3_4_5_6_7_8_9_10_11_12_13_14_15_16_17

If the interleave is set at 2:1, then the second logical sector would appear at 4,52 , the next at 4,54 and so forth. The data on an "interleaved drive" is laid out a bit differently than 1:1, one drive had the data laid out like this:

1_10_2_11_3_12_4_13_5_14_6_15_7_16_8_17

Can you guess what interleave this represents?

Now, if we wrote after sector one, sector five, and after two we placed sector (an interleave of 4:1), it will take 4 revolutions of the platter to read in all 17 sectors of the drive. This is not a data rate of 500k, but it is much, much faster than attempting to read the same data one sector per spin!!! The optimal placing of data on your hard drive for fastest data transfer rates is what interleaving is all about.

Since some computers and controllers cannot reliably read and write data as fast as the current interleave is set, and an interleave that is set wrong will drastically slow your I/O down, and in some extreme cases the integrity of your data may be threatened, this is an important factor you must give some thought to in order to get peak performance from your system. A good case is a clone that was just in the shop I am employed at. After completing the repair, I noted the hard drive acted as if it was extremely sluggish. After a few investigative tricks, I determined that that interleave, currently at 6:1 or thereabouts, was not proper for an optimized system. I used a fine utility I received from Genie, called Interleave strange as it may seem, to change the current value on this system. The utility will actually change the interleave, a sector at a time, and then replace it on the newly laid out track. After 4 hours or so, that task was completed, and the owner of the system called back to thank us for the unbelievable speed increase he noted! I remember the words "Better than new!" Of course, his drive formatting software did not attempt to find out what interleave was best for his system when the hard drive was lasted formatted. Please note that the program mentioned is for the IBM type machines- no similar interleave changer is available for the ST.

How is the optimal interleave determined for your system? If you purchased your hard drive system already assembled, such as those systems from Atari, Supra and ICD, then _they_ have determined what is best for your system. If you pieced your system together from various components, whether purchased locally or the mail order route, then you were the one who did it, although quite possibly, unknowingly!

Finally, since we can not at this time change the interleave on the Atari ST (or 8-bit systems, either) other than by totally reformatting the drive, and thereby losing all your data, ! please ! plan the layout and interleave of your drive *before* proceeding with your original formatting of your hard drive.. You'll save a lot of time later on!

(The ST is quite capable of 1:1 interleave, in fact the HD DMA Interface of the ST is considerably faster than that available on AT machines or 386 Machines with an AT buss, they require a 2:1 or 3:1 interleave depending on the controller or Drive used.)

Note: As a matter of information, some RLL drives does not conform to the 17 sector format, but rather they do things a bit differently on these drives/controllers, so not all of the above information is totally correct in the case of a few drives of this type. I'll spare you the details to avoid confusion!

Fragmented files.

By Col. Jack C. Mangold
USAF, Retired

I have figured out a way to clean up my hard disk partitions without buying a program. At least as far as fragmented files are concerned. But first let me bring any new computer users up to date on this subject.

Start by typing a letter using your favorite word processor. You have a couple of paragraphs done when you get interrupted by a phone call. To prevent losing your work with a power failure you save the document to a newly formatted disk.

By the time you get back to your computer you are not in the mood to complete your letter. Instead you work on an idea using a spreadsheet program. You work for 20 minutes and the doorbell rings. You save your spreadsheet on the same disk and answer the door.

The next time you turn your computer on is to again work on the letter. After typing for 30 minutes you get sleepy so you save your work (again on the same disk) and go to bed.

I am leaving out some details but here is what happened on your data disk: At the beginning of the disk the computer placed your partial letter. Following right behind that was spreadsheet work. You then saved your letter again and since you used the same title, the computer started at the beginning of the disk and overwrote the first partial letter. But now your letter is longer. The computer did its job until it came to the spreadsheet work. Being smart it simply jumped to the end of the spreadsheet and continued saving the letter.

On this disk you now have a fragmented letter and you are still not finished with it. You can imagine what the disk would be like after several days, weeks, etc, of working at your computer. Your document may be in dozens of places. Chances are you will also delete a file or two. This will leave blank spaces on you disk. The next time you save, the computer will use the first blank space, then--- well you get the idea.

But, you say, "So what, the computer is smart enough to figure all this out," and you would are right. But now when the computer accesses a file, instead of reading it direct, in line, the computer must read a bit of the file, skip over something else, pick up another part of the file, etc until it has read the entire file. THIS SLOWS DOWN THE ACCESS TIME. You may not notice, you may not care, but if you want the most out of your system, you should minimize fragmenting. This occurs on hard disk partitions also.

Now before I finish my story, let me explain something.

When you do a disk copy using a fragmented disk, your copy will also be fragmented. This occurs whether you are using a copy program or dropping one disk icon on top of another disk icon from the desktop. (For instance A to B--Floppies only, you cannot disk copy hard disk partitions.) Try a disk copy and notice the bar slowly darken from left to right. This is the same visual effect you get when you format a disk.

To obtain an un-fragmented copy, open the window of a formatted target disk. Then drag the icon of the disk you wish to copy to the open window. The computer will now copy each file completely before it starts another file. It will even show you visually what file is being copied as it progresses. (I do not know whether early TOS's have the visual progress feature.)

Now, on with my story. I have had a hard drive only a few months. I remember reading years ago about fragmented files and a program that would clean up hard drives and also align the files.

I do not like buying programs I do not need. I have bought so many that are pure trash that I am sceptical and must read a good review on one before I will buy it.

Anyway, I have one whole partition, F, that is blank. Now I know that my boot partition, C, is fragmented because of my constant maneuvering of files to try different things. To un-fragment this partition, I simply opened the window of partition F, dropped icon C into the window and watched the countdown of file transfers. Then I opened partition C window, lassoed all the folders and files from within and dropped them into the trash can.

Now, I thought to myself, computer, we'll see who is smarter. I know you will only boot from partition C (which is now blank). I have been renaming floppy disk icons for years now. I will simply take icon F (which now has the C files in it) and rename it C. Of course I will also change the name of C to F. Ha, I know what you experienced hard disk users are doing right now. You are chuckling because you know one cannot rename hard disk icons. Well, live and learn. Actually all I had to do was copy the files from F back to C. So is copying one partition to another and back again better than buying a program to do the job? Well, you can't even do this unless you have a blank partition, so I guess it depends on your situation.

////////////////////////////
/ DEALER VIEWPOINT /
////////////////////////////

Well-stocked!

By Sheldon Winick

Recently, there has been quite a bit of conversation in GEnie's Atari Roundtable concerning Atari's total committment to their Jaguar entertainment system, at the apparent expense of their personal computer division. Atari historically seems to always maintain a one-track-mindedness when it comes to marketing, and the current total infatuation with their latest hardware offering is in keeping with what we should expect. The main difference this time, however, is that unlike most of Atari's personal computer products, this new entertainment system is appearing to get the national attention that it deserves.

Atari's personal computers periodically received some media attention, but with Atari's lack of an effective marketing program, that was about the extent of the attention they received outside of the established Atari community. While those of us fortunate enough to own Atari equipment know the advantages of Atari's powerful, user-friendly design, the majority of the computer world remained totally ignorant of the platform.

While Atari's top management appears totally committed to the Jaguar alone, the computer division is still far from dead or disappearing. James Grunke, Atari's MIDI guru, has recently become much more visible here on GEnie, and has been directing a thoughtul and interesting discussion in Category 30 of the Atari Roundtable on what we end users would really like to see in future systems. It is refreshing to see James' optomistic viewpoint that there are still exciting things planned for the future.

Over the years, Atari has also exhibited a very erratic system of maintaining stock for dealer orders. Their proclivity for concentrating at only one system at a time has left the marketplace nearly continually short of one thing or another. Currently, despite the heavy concentration on the Jaguar, stocks of Atari's excellent computer systems have become plentiful. Atari's dealers have been able to offer their customers a rather nice selection of computer systems, including systems that have not been available for some time. This new availability may be partially due to Atari's 'finding' additional odd lots of merchandise in their warehouse, and partially due to Atari consolidating their various computer divisions back at their Sunnyvale headquarters, but the end result is that we dealers are now able to offer our customers a really excellent choice of Atari computer systems.

Currently available stock includes Atari's 1040STe's, Falcon030's, TT030's and even STacy portable laptops, along with various accessories and peripherals. Teamed with the latest software offerings for the Atari line, all these systems can make excellent choices for computer enthusiasts looking for something new.

There are also a tremendous number of Atari users who are still getting by with their original ST systems who would greatly benefit from upgrading to a newer system, and many of them are doing just that. Many of their older systems are being traded in or sold directly, making excellent values for new computer users or those on very limited budgets.

New software offerings and accessories are continually making their way to the marketplace, with promises of even greater power and performance. And for those interested in recreational software, Atari's new Jaguar has leapfrogged the competition with it 64-bit processing power.

Maybe the Atari glass really isn't almost empty after all; perhaps its just in the process of being refilled. Check with your favorite Atari dealer for more information on the exciting new products and special values that can make your Atari experience more enjoyable and productive. And definitely don't forget to support your Atari dealers with those Jaguar purchases as well; for many dealers, that may well determine whether or not they will be able to survive to be there for you in the future.

Happy (Atari) Computing.

Sheldon owns and operates Computer STudio, a full-service Atari dealership in Asheville, North Carolina. Sheldon is also a registered architect, and has operated his own architectural office since 1971 (he is currently licensed in Florida, Tennessee, North Carolina, and Colorado, as well as holding a National NCARB certificate). His architectural practice has been using Atari computers exclusively since 1988, when his last Xerox computer system was retired. His current architectural drawings are, of course, prepared on his Atari TT030-based CADD systems, using DynaCADD software.

(Editor's note: This article is one of an ongoing series. The opinions expressed by this excellent writer are not necessarily the opinions of the Newsletter Staff or the Mid-Florida Atari Computer Club or it's officers.)

Key Issues

(Or Sound Advice)

by Robert Raymond

I've worked for the same small software house for about three years now. I was one of two programmers hired when it looked as if it was time for the firm to 'make its move' and really produce some code. Unfortunately, the slumped economy and changes in the industry drastically reduced sales, resulting in a round of pay cuts. A year went by, and we muddled through (very much like the Donner Pass Party).

Just as suddenly, things got better. Sales skyrocketed, and since I was one of the 'old sweats', I found myself in the position of lead programmer on several important projects.

One of the bad side effects is the growth that we are now experiencing. Three programmers are now seven, and with these new faces come new personality-clashes.

In the 'bin' next to me is on of the nuggets; he is an older programmer who has mostly done consulting work. He seemed pleasant enough, but after working for a whole week, he figured that he was an old-timer too, and hence entitled to an opinion. On that monday, I was putting my bike on the rack (since I cycle in most days), and he stood to the side and talked all about his weekend cyclings, technical bike know-how, and whatnot. I just ride the damn thing.

"So what type of tires are those?", he asked.

"Round ones", I answered.

He fixed me an exasperated look. "You know, street bikes are a waste of time, and yours is old. There are all sorts of new, better bikes that you can get now. You should move with the times." (A man looks up from a row of test-tubes. "Here at Schwinn labs, we are constantly working on improving Current Bike Technology. Our new robo-cyclist handles all propulsion and navigation, eliminating the cyclist and saving 100lbs.")

"Thanks. I think I'll keep my bike all the same."

This has gone on all week. My 280ZX is a '79, has a perfect paint job and a decent interior. "You should something that won't fall apart on you."

At 3pm every day, I take a minute to crack open a book on Zen philosophy. It's sort of my mini-vacation. "You know, all that eastern mish-mash stuff is fine, but you really should invest in a real religion." So, now it was friday. I was on the phone to Morrison's computers, trying to get information of graphic programs (I am currently working on building a graphic adventure). Mr. Answer Man overhead. "Don't worry about trying to buy something like that. I've got a graphic program that you can borrow." We all know the feeling. Got a computer? Ah, well what sort is it: a 386? a 486?

"Sorry, but I don't think that it will work. I've got an Atari ST."

"An Atari...?", he started, his lips drawing in to a smirk.

"And at least I don't have some sweater-wearing preppie building operating system theme parks that are so inefficient that I have to enhance my computer just to run it."

"Bills not a pre..."

"Want to know a good computer joke? Having every installed application write to your autoexec.bat file. That's a good joke."

We exchanged knowing, pitying stares, since we both knew that the other was wrong. Its just as well - at least I won't have to worry about getting any Atari advice from this bone-head.

Editor's note: This is another in the continuing series "Key Issues" by Robert Raymond. Robert is the current Secretary, Resident Club Cumdgeon, writer and programmer that our club is fortunate to have. His opinions are respected, but do not necessarily represent the opinions of the Newsletter staff, Club officers or the Mid-Florida Atari Computer Club in general. We express our thanks once again for this valued contribution.)

Frontier - Elite II

Q. How many ears has Spock got in Startrek??

A. Three, a left ear, a right ear, and a final Front-Ear!!

(Aka, Blummin heck, what kept you!)

I could actually say quite a bit about the long and distinguished history of this game, so I will!!

Back in 1985, two cool dudes, Dave Braben and Ian Bell decided to do a 3D line vector game on the BBC computer.. The rest we all know about now.. Amazingly, äEliteÇ appeared without any pre-release hype, and I came across it for the first time in a small Southport software shop. In the minimal space for three people, I had my first acquaintance with the intricacies of the control system and of the terribly deadly and confusing combat which left me dead in no time at all..

I was hooked, bought a copy and took it to be loaded into one of the colleges Beebs, (Oh such äadvancedÇ hardware in those days..) The same net result happened in that I became confused and dead again very quickly.. To say that you could generate real feelings of panic and fear when an enemy ship came into sight was no lie.. Then there was the line-up-and-rotate complexity of manual docking if you did make it to the other end of your trip..

Gradually, things did fall into place, the key to this game was persistent and successful trading, making a profit in the right places and gradually acquiring a respectable level of butt-kicking hardware.. The first compulsory purchase was a beam-laser, so much more fun than the weedy thing it replaced.. The first 'kill' with this shiny new piece of kit was a large ship, a python or something, which ate up my first burst, slowed, then finally folded under the blasts of the partially cooled beamer unit.. Rapid purchases of escape capsule, ECM unit, fuel scoops, extra cargo bay, energy bomb, military lasers for each of the four firing positions followed.. All of this to the accompaniment of loud tinny high-pitched squealing blasts from my guns..

This was a problem in itself, as the Beeb concerned was in the library, the noise attracted more attention then was needed, so a pair of leather gloves muffled the internal speaker during my extended playing sessions..

Eventually it burned itself out, but Elite, along with living in a shared attic flat in Southport, and getting a decent-sized overdraft was one of the enduring memories of my second year of the degree course..

In the interim period, I also got to try out Commodore 64, Spectrum and Amstrad versions of this game.. (The BBC version best, C64 worst, the others inbetween..) The ST version did not interest me, although I noted that it had some of the newfangled solid 3D polygons instead of the hidden surface removed vector lines of the originals..

We have now come back full circle with a new version, äFrontier - Elite II Ç(The extended remix?) This has had rumours about it going as long as the ST has been around.. The manual in the original hinted at a further storyline to be developed, of a secret universe beyond äEliteÇ, which was never developed.. It was suggested that work had started on something which was scrapped then started again.. Firm news (Screenshots) started to appear a year or so ago.. The actual release towards the end of 1993 was a surprise, as was the even bigger surprise when it actually appeared for the ST...

So what is it like???

The short answer is some very familiar elements but an awful lot that is different... A much more complex and involving simulation has been produced, here are some impressions after playtesting on the ST and Falcon..

Much more detail, the graphics are some of the best 3D vectors ever seen on the ST, as complete in every detail as the Amiga, and only missing the extra (limited) texture-mapping found on faster PCs.. For example, at higher detail levels, surface features such as complex buildings, domes (on airless planets) girders sticking out of space stations, and extra surface details on the ships, including decals and 'twiddly bits' not just smooth flat solid vectors.. A higher level of detail has its price in the frame update rate on 68000-based machines, so does a low level of detail at that.... On the Falcon and other higher-rated machines, the operation of the 3D graphics engine is much smoother, although more 'glitchy' on the Falcon.. (I don't personally know about the TT, but have been told its 32mhz is very good indeed for this game..)

I love the way that PC reviewers are amazed by the fact that Frontier only takes up the equivalent of one high-density disk, rather than the bucketloads that are normal for them.. Those of us used to properly optimised coding smile smugly at them..

The game has been made more authentic in a number of ways.. The system of in-flight control of your craft has been rewritten to take the different laws of flight/gravity/inertia, etc in space.. You now do not just go where you point your craft, but have to wait whilst the ship slowly catches up to change course.. In combat you could even coast along with engines off, just using your retro-thrusters to alter the angle of your ship to aim at the enemy.. In the easiest start-up option, there is an auto-pilot handily built in..

The map display is a rather superior affair now, being fully 3D and rotating (slowly on the ST.) Also allowing you to zoom in close to individual planets and space stations, and giving full information on each of the planets, whether they are inhabited or not.. The play area in now much larger, with uninhabited planets at the rim of the galaxy to explore..

The main appeal of Elite was the impression of absolute freedom of action you got from playing it.. This side of things has been greatly expanded to include several different ways of playing through the game... The traditional trading option is still there, as is the option to build up an 'Elite' rating by accumulating kills.. Trading still includes a wide variety of illegal goods, and has an extra dimension via the bulletin boards found at all star-ports where you can arrange to deliver packages or

passengers or trade in dodgy goods.. The trick here is to try to work out in advance which people have a price on their heads from the police or local Mafia.. Assuming a high enough Elite rating, you can also work for people as a contract killer, details from the nearest BBS.. A lot of the work available from the BBS can be considered as 'mini-missions' - good practice for bigger ones later on..

Piracy, and the ability to follow people in hyperspace depend on a fuel scoop, and a hyperspace cloud analyser respectively..

Frontier assumes a political rivalry between the Earth Federation and the Empire, so carrying out mercenary military missions for either of the two is an option, letting you build up military rank and accumulate money as well...

If you have a large enough ship, it is possible to mine asteroids and uninhabited planets for a living, either with the traditional mining laser or special mining and refining machinery..

Police, yes they are as present as ever, with three police authorities, Federation, Empire, and the independent planets force Interpol.. You have not one, but three criminal records to take care of.. Under certain circumstances, the police can be bribed, but a fine is the usual penalty for a wrongdoing.. For severe wrongdoing, going to jail usually ends the game at that point..

Equipment, oh yum yum yum!! There are vastly more opportunities to upgrade your ship, with multiple classes of weaponry, ship-equipment, military hyperdrives etc, and even to replace your own ship with a new model.. The downside with this is that it all costs big bucks.. And a weight penalty is in force, and is a real pain if you only have a smaller ship to start with.. Not like the original Elite where you could bolt on what you liked to your Cobra MKIII regardless.. (The Cobra MKIII is quite a desirable ship in this game, as you start on the easy options with something tiny like an Eagle long-range fighter, with only a limited payload.)

A whole host of ships including some of several thousand tonnes are available, where you have to consider multiple crew members to run them, these can be found on the Bulletin Boards again.. To purchase something like that needs you to be in the millionaire class of pilots anyway..

Other factors, a regular expensive service of your ship is now needed, otherwise equipment failure will follow, usually all on the same mission for some reason..

Those crucial combat bits in full.. On the Falcon, playability and smooth updating are fine.. On the ST, it is just about ok... You are likely to run into some problems due entirely to the mechanics of the simulation where you in a tiny Eagle craft with a one or five megawatt pulse laser, are pitched up against something four times heavier with a twenty megawatt beam laser hooked up to the national grid of Norway or something... Shielding or force-fields are expensive and heavy optional extras, so you don't have any, and if that beam laser touched your hull..... It also seems to be easier for people to evade missiles as well, although this also works in your favour too.. You even need a device called a radar mapper to register your kills with the police, and collect any bounty due.. (And this also adds weight at the expense of cargo space..)

Another mystery you may like to consider is, whatever happened to the Thargoids, the alien threat from episode one??? Being caught in hyperspace by an invasion fleet was one of the highlights (or lowlights) of the game..

So....

Good points:-

Much more interactivity and scope for different types of mission with more or less combat as you feel like..

Authentic simulation of Earth (Sol) solar system, and latest astronomical data of nearby solar systems.. More detailed profiles on the star map..

Can land on planets, these now have some sort of landscape, mountain ranges etc, fully featured buildings as well..

Graphics detail pushing ST to its limit.. Even a 4096 colour palette available on an STFM... Great level of surface detail even clouds on planets with an atmosphere..

Absolutely humongous level of equipment upgrades available, and ability to change ships (at a price..)

General 'bigness' of it all..

Bad points:-

On standard ST's, the processor may just be pushed a bit too hard.. Buggy and glitchy on 68030 machines, although faster there..

Sound is very basic, they needn't have bothered with any tunes for example..

Weight penalty on equipment is a pain.. You reach the limit with an Eagle fighter pretty quickly, but then have a long way to go, financially, to get a bigger ship...

Some parts of the map display may be longwinded..

Even more than the original, not for the fainthearted..

Suggested improvements:-

Falcon specific version, with optimised 68030 code and DSP routines to raise the speed even more, perhaps introduce texture-mapping as per the PC version.. (As if...)

Multiplayer link!!!!!!!!!! (MIDI or Falcon LAN?)

A mega-cheat with unlimited funds for those people who can't be bothered to do it all the hard way????

Ratings:- (at the risk of repeating myself..)

Graphix:- 94% -Ç These are light years away from the original, and even the solid 3D ST version of the original game.. NO LOSS OF DETAIL by comparison with any other version either... Well done Davey..

Sonix:- 15% -Ç Beep-beep-de-beep, Dave Braben coded both ST and Amiga versions.. It seems he also did the soundchip music and sound effects all by himself.. 'Music Off' is the best idea.. Thankfully no effect on the game as a whole..

Playability:- 70% (ST) 80ish% (Falcon) 90??% (TT?) One of the most contentious factors of all... Depends on the all-important frame-update and how porky the CPU in your machine actually is... ST owners may be consoled by the fact that the basic Amiga version is 10-15% äslowerÇ than theirs.. Most PC versions aren't too hot on speed either unless a very high-spec PC is available..

Overall:- 80%, rising with a faster machine Probably the most involved and massive game on the ST for a long time, perhaps ever... Certainly does the concept justice..

And with that... Goodbyeeee!!!

(C) CIH 26-27.12.93 - Yes, some of us have been doing something useful over Christmas!

(Editor's note: This review is from a British Online magazine calledMaggie. It is the December, 1993 issue and the reviews are still very much current and the writing is enjoyable. The newsletter staff are certain that you will enjoy seeing a European prospective and program review.

Virtual Reality - Game or Tool?

By John Osarczuk

This months article was going to be about CD-ROM drives and how they work. Unfortunately, my article and the rest of my luggage continued on to Zurich, Switzerland as I landed at Washington National airport after a 3 day business trip. Such are the breaks of an airline traveler. But my experiences traveling this weekend form a much better story for this column on computer technology.

A Dark and Stormy Night In the way of introduction, let me say that I make my living as a helicopter pilot. On Sunday evening, I was flying at 6000 ft above a solid cloud deck that extended from 5000 ft down to 1000 ft above the ground. It was a dark, cloudless night as I dutifully followed the air traffic controllers instructions. I was flying completely on instruments and being given radar vectored headings to an instrument approach into Teterboro Airport in New Jersey. Suddenly, I bright red warning light screamed at me from the cockpit dashboard. I looked down to check my instruments and saw that the #1 engine generator had failed. My flight engineer and I tried to get it back on-line without success. Fortunately, we have a backup generator on the other engine. I still like to be cautious so I asked the air traffic controller for traffic priority and an immediate descent below the clouds. Following these new directions I felt comfortable; generators fail infrequently so it wasn't likely I'd have any other problems. I began to look forward to a good steak and a beer.

I had just entered the cloud deck at 5000 ft when the red warning light again screamed out. Engine #2 generator had failed with a noticeable dimming of the instrument lights. It now seemed darker than ever outside; except for the rather frequent bright flashes of lightening. We went through the appropriate emergency procedures but the last line of the checklist seemed particularly ominous; AT FULL CHARGE, YOU HAVE 15 MINUTES ON BATTERY POWER.

We still had 4000 feet of altitude to lose before we were out of the clouds and over 20 miles to go before we reached the airport. That added up to more than 15 minutes of flying; it was going to be a rather dark landing tonight. I informed air traffic we were facing imminent electrical failure and received an emergency descent and direct vector headings to the airport. Within 5 minutes the lights dimmed again and went out completely. My engineer quickly got out his flashlight and shinned it on the standby compass. This is the only navigation instrument functioning anymore. The kicker here is that in the clouds, it is impossible to tell up from down. That is what the instruments allow you to do. My only hope now is to watch the standby compass and if it is spinning, that will tell me I'm in a turn. I keep the controls very still to prevent an unusual attitude and my engineer reads out the compass headings. Suddenly, I hear the noise of one of my engines winding down and a glance at the #2 engine-driven tachometer shows that it has flamed out.

Here I am with one engine left, no electrical power or instruments at 3000 feet above the ground and flying

through the clouds. Ask any pilot and he'll tell you that I'm in pretty sorry shape at this point. I'd gladly trade that steak and beer for a decent attitude indicator! My flight engineer is frantically waving the flashlight around and calling off the headings from the compass as our rate of turn begins to increase. The last thing I hear him say is, "I think you're in a spin!"

It was the last thing I heard because at that time the lights came up and the aircraft stopped moving. The simulator instructor announced that we were out of time and would continue the scenario tomorrow. With a sigh of relief and a swipe of sweat off the brow, my engineer and I happily left one of the greatest virtual reality trips we had ever taken! We had just spent the last 2 hours in the Bell Textron 212 helicopter simulator at the International Flight Safety building in Dallas, Texas!

New Technology? There has been a lot of talk lately about this "new" technology of virtual reality. I know I read an article just the other day that claimed it has no uses whatsoever beyond super game-playing. Folks, I'm here to tell you this technology has been around for some time and it's uses and benefits are almost immeasurable.

The simulator I flew in was about 5-8 years old and the instructor had no idea about it's cost, but it was an amazing piece of equipment. When I sat in the seat I felt like I was in the real aircraft. Heck, it even smelled the same! (I think that's because they use the same seats and fabric as in the real aircraft). The sounds were identical but at a lower decibel level. Of course, all the equipment was identical and worked as if you were really flying. The simulator really made its money with the visual displays. When I was flying, I could look left, right, up and down and could not tell that I was looking at a computer generated display. The only thing I didn't like was that there were no chin bubble views. If you're a helicopter pilot, you need the chin bubble to provide visual references for hovering. The simulator really lacked in this respect. I asked the instructor why this feature was left out and he explained that the simulator was initially designed for airliners but later adapted to helicopter simulators. I guess that's also the reason I found hovering the most difficult part of flying the simulator. Hovering takes precise control movements based on almost instinctual responses to visually perceived movements. I found that the simulator didn't update the display at the speed necessary to provide these visual cues. Even with these discrepancies, looking through the windshield made you swear you were flying. Everything from approach lighting to traffic on the roads below were realistically modeled. Other aircraft traffic could be brought into the simulation as well as a wide variety of weather conditions.

While the visual displays were impressive, the motion aspects of the simulator lent that little extra feeling of realism. In fact, during one especially violent emergency procedure the simulator responded so violently that I actually bumped my head on a bulkhead! And it hurt! The science to providing motion to simulators is quite complex but I learned that the simulator doesn't just turn right and left as you fly the aircraft. Let's take a right turn for example. When I moved the controls for a right bank, the simulator and display initially coordinate their response with the display showing a right turn and the simulator banking right. As the turn continues, the displays still shows a right turn but the simulator slowly levels off. This is done at a rate that is mostly undetectable. The display maintains the impression of the right bank while the simulator is now set for the next input. If you close your eyes through this procedure you can feel the movements but when you open your eyes, the seat of your pants will tell you that you are level but your eyes will show you in a right bank... do this a couple times and you'll look about as green as the grass!

One of the instructors was kind enough to show me the workings of the simulator. He sat behind the crew and managed it through two 20 inch touch-sensitive screens. Each screen could be configured to the individuals preference and could show information ranging from airport displays to a list of possible malfunctions. I've always doubted the useability of touch screens, but the instructors could get through the menus a lot quicker that any mouse-keyboard combination would have allowed.

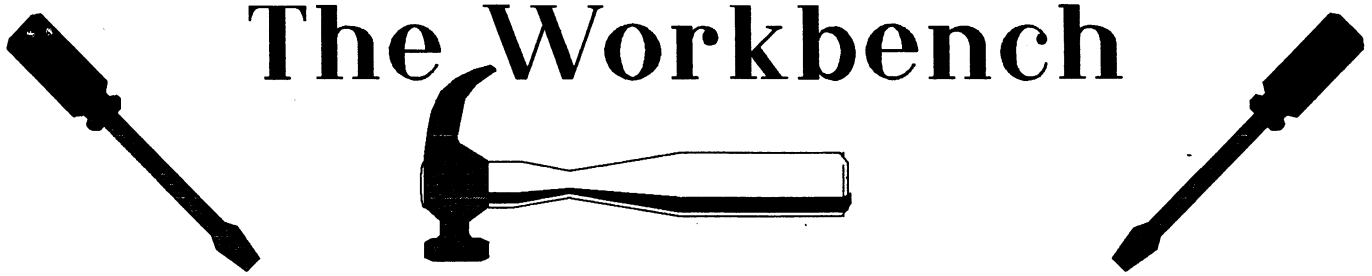
Overall, the simulator was a real treat for me as a computer enthusiast and a real learning experience as a pilot. I know a lot of people doubt the practical applications of virtual reality but after this weekend, I'm convinced. Sure, it might make great video games but when applied to the right uses, it can make all the difference. The 3 days I spent practicing emergency procedures has made me a safer and more confident pilot. And this is a direct result of virtual reality applications.

I hope the events I described above never happen to me and I hope the other emergencies I practiced on my trip also never happen to me. But I know that I can handle these things and I know the proper way to do it. Advanced technology in the form of virtual reality is making a difference and, in this case, making the skies safer for pilots and passengers alike!

As a postscript, if you're reading this, you must have found something at least a little interesting in this article. How about letting us know what you liked and disliked? What'd you like about this issue of GEnieLamp ST? Or dislike? Take advantage of that incredible technology called E-mail and let us know how you feel. We're always receptive to comments that help us improve this magazine!

(Editor's note: This will be an ongoing series and will feature different technological views on our computer and sometimes aviation world.)

The Workbench



The Null Modem Cable

By Richard Brown

PHONE LINE NULL MODEM PROCEDURE

(Or, how to get along without a null modem cable in times of need.)

So, my TT's floppy drive decided to go south. Flaky. Semi-functional - you name it - it just decided to no longer read an _entire_ 1.44 meg disk.

Problem was, I had a 1.25 megabyte LZH file that HAD to be decompressed on the TT, and RIGHT NOW - but the TT was my only Atari with a 1.44 meg floppy...

Fortunately, the "super drive" in my portable PowerBook 145B (a low-end Mac that happens to work harmoniously in an otherwise all Atari environment- if only the ST Book was available!) was able to read the IBM formatted disk and transfer the file to the Mac's hard disk.

Unfortunately, the null modem cables I ordered between Atari and Mac were not ready over the Fourth of July weekend. So, what to do?

Email it to myself! Perhaps this was the ticket, but without a decent Mac front end for GEnie, plus the fact that GEnie mail likes xmodem uploads (over a MEGABYTE using XMODEM? NO THANKS!), I tried CompuServe, where its mail option informed me the cost of the transaction would be over $22, which was a LOT more than the cost of a null modem cable!

Consulting a computer guru friend, he suggested a direct connection between the PowerBook's modem and my TT's modem, a connection MINUS the phone company.

Having upgraded the PowerBook to the Supra FaxModem standard - identical in specification to my TT's Supra FaxModem, it seemed like a good idea.

There are many who would say this will not work, but it does. Here's how:

First, you simply disconnect the phone lines from the modems, and connect a standard phone cable direct between the two modems (line in to line in).

Remember that, aside from providing the means to dial out and make contact with a distant modem (and supplying an electrical connection), the telephone company has nothing to do with the modem connection. Modems themselves provide the carrier across the phone line, and this carrier is sufficient to traverse a short, direct, modem to modem link sans help from the phone company. My direct modem to modem link was made with a cable about six feet in length. I would hesitate to say this technique would work over a long cable run, but a short six footer proved no problem.

Once connected, you must run comms software to establish the link. On the TT030 I used STalker, and on the Mac, Microphone Lite. Setting the software to 19,200 baud (8/N/1), I used two Hayes commands, "ATH1" (modem OFF HOOK) followed by "ATO" (return ONLINE) on the TT side, and a simple "ATA" (ANSWER phone line) command on the Mac.

Bingo! The connection was established, and a zmodem upload of the megabyte plus LZH file from Mac to TT030 proceeded without a hitch, even making use of the Supra data compression feature at over 1500 characters per second (cps), or something over 12,000 baud. You'll never get 100% efficiency, even with a hard wired null modem connection, if only due to protocol overhead, checksums and the like, but in a time like this who's going to complain about 1500+ cps?

Minutes later, the file was safely on the TT internal hard disk, and thereafter decompressed for use.

The miracles never cease.

You may find you need to execute the modem "AT" commands in a particular way for timing purposes, but this "phone line null modem" procedure definitely can prove a life saver. You might think to use it BEFORE you order a null modem to effect a file transfer between "alien" systems.

In that I intend to use both phone line and null modem connections on a continuing basis, I'm still happy I custom ordered the Mac to TT null modem connections. Another 9 to 25 pin null modem cable I had made has proved invaluable in allowing my TT to talk with Mega's and ST's.

So, that's it from the tip-meister for now. Happy computing, all! Atari computing, that is!

(Editor's note: This great idea has not been tested directly by the staff of this Newsletter and does not make any recommendation one way or the other and this Newsletter or the Mid-Florida Atari Computer Club will assume absolutely no responsibility for any damage that may occur. We would welcome a member's report on this fine tip.)